Resurgence of the Louisiana Austin Chalk

PLANO Executive Night
New Orleans, Louisiana
March 28, 2019
Resurgence of the Austin Chalk

Overview of the Austin Chalk
History of the Austin Chalk
The Play Heats Up in LA
Where are We Headed

Source: Society of Petroleum Engineers
• The Austin Chalk is an Upper Cretaceous carbonate formation
• Gulf Coast from Texas through Louisiana
• First produced in Texas - 1920’s
• Modern production from the 1970’s
  • Vertical
  • Horizontal (Unfracked)
• Today – Fracked Horizontals
Austin Chalk | Historical Focus

1970 - 1990

Unfracked Verticals

Chalk production entirely from natural fractures

1990-2015

Unfracked Horizontals

Chalk production primarily from natural fractures in contact with the wellbore, with some production coming from pore space

2015-2018

Fracked Horizontals

Chalk production primarily from matrix porosity with permeability created by hydraulic fracturing, with natural fracture upside

Images Source: Petroquest Investor presentation
Austin Chalk | Well Performance

Top 25 Wells Test Rates

Test Rate, BOEPD

0 5,000 10,000 15,000

- POINT PLEASANT
- WOLFCAMP B
- AUSTIN CHALK 10,586
- EAGLE FORD
- BAKKEN
- AUSTIN CHALK 8,125
- WOLFCAMP A
- MARCELLUS
- MERA MEC
- AUSTIN CHALK 6,853
- BAKKEN
- AUSTIN CHALK 6,435
- WOLFCAMP X Y
- AUSTIN CHALK 6,386
- EAGLE FORD
- EAGLE FORD
- THREE FORKS
- BAKKEN
- HAYNESVILLE
- WOLFCAMP A
- MERA MEC

Map of the Top 25 Wells 2016-2018

30 day peak rate
### Austin Chalk | Well Performance - Louisiana

#### Field Performance Summary

<table>
<thead>
<tr>
<th>Field</th>
<th>Wells</th>
<th>Oil</th>
<th>Gas</th>
<th>BOE</th>
<th>Water</th>
<th>BOE/well</th>
<th>Water per well</th>
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</thead>
<tbody>
<tr>
<td>Burr Ferry N</td>
<td>23</td>
<td>2,131,617</td>
<td>12,062,364</td>
<td>3,947,743</td>
<td>2,019,305</td>
<td>171,641</td>
<td>87,796</td>
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<tr>
<td>Burr Ferry S</td>
<td>20</td>
<td>2,974,161</td>
<td>20,180,751</td>
<td>6,447,039</td>
<td>28,955,940</td>
<td>322,352</td>
<td>1,447,797</td>
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<tr>
<td>Masters Creek</td>
<td>57</td>
<td>17,172,341</td>
<td>80,904,311</td>
<td>30,656,393</td>
<td>200,149,474</td>
<td>537,831</td>
<td>3,511,394</td>
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<tr>
<td>Masters Creek S</td>
<td>9</td>
<td>350,147</td>
<td>2,923,654</td>
<td>837,423</td>
<td>1,784,490</td>
<td>93,047</td>
<td>198,277</td>
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<tr>
<td>Masters Creek W</td>
<td>15</td>
<td>8,579,554</td>
<td>35,267,259</td>
<td>14,457,431</td>
<td>68,941,027</td>
<td>963,829</td>
<td>4,596,068</td>
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<td>Sugartown</td>
<td>22</td>
<td>0,203,645</td>
<td>32,049,307</td>
<td>13,724,096</td>
<td>128,172,042</td>
<td>620,050</td>
<td>5,735,129</td>
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<tr>
<td>Bayou Jack N</td>
<td>12</td>
<td>1,372,255</td>
<td>913,766</td>
<td>1,524,549</td>
<td>542,966</td>
<td>127,046</td>
<td>45,247</td>
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<td>Moncrief</td>
<td>11</td>
<td>1,827,016</td>
<td>4,423,176</td>
<td>2,564,212</td>
<td>5,077,272</td>
<td>233,110</td>
<td>461,570</td>
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<tr>
<td>Cheneyville W</td>
<td>13</td>
<td>3,324,867</td>
<td>17,564,982</td>
<td>6,252,364</td>
<td>21,138,460</td>
<td>480,951</td>
<td>1,626,035</td>
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<tr>
<td><strong>Total</strong></td>
<td>182</td>
<td>46,015,603</td>
<td>206,886,570</td>
<td>80,411,850</td>
<td>454,781,776</td>
<td>441,823</td>
<td>2,498,801</td>
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<tr>
<td>Burr Ferry Total</td>
<td>43</td>
<td>5,105,778</td>
<td>32,243,115</td>
<td>10,479,631</td>
<td>30,975,245</td>
<td>243,712</td>
<td>720,355</td>
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<tr>
<td>Masters Creek Total</td>
<td>103</td>
<td>34,385,887</td>
<td>151,741,531</td>
<td>59,675,942</td>
<td>397,047,833</td>
<td>579,378</td>
<td>3,854,833</td>
</tr>
</tbody>
</table>
EOG makes a play in oil-rich Austin Chalk

BY TED GRIGGS | TGRIGGS@THEADVOCATE.COM  SEP 6, 2017 - 11:18 AM

EOG's Avoyelles well produces 1,120 barrels of oil over 24 hours

BY TED GRIGGS | TGRIGGS@THEADVOCATE.COM  OCT 12, 2017 - 8:02 AM

Lafayette-based PetroQuest acquires leases on 24,600 acres in Louisiana's Austin Chalk

BY SAM KARLIN | SKARLIN@THEADVOCATE.COM  DEC 20, 2017 - 3:07 PM

ConocoPhillips' leases raises prospects for more activity in Louisiana's Austin Chalk formation

BY SAM KARLIN | SKARLIN@THEADVOCATE.COM  APR 4, 2018 - 9:07 AM

Marathon Oil confirms it's latest major company exploring Louisiana's Austin Chalk

BY SAM KARLIN | SKARLIN@THEADVOCATE.COM  MAY 3, 2018 - 7:54 AM
Austin Chalk | The Chalk Heats Up

Early 2017
- Leasing in Central Louisiana.
- “EOG-ology”
- Bonus Prices $200-$300/ac

Mid – Late 2017
- EOG: Eagle’s Ranch Well in Avoyelles Parish, LA.
- Leasing activity increases
- Bonus Prices $500-800/ac
- Eagle’s Ranch Well comes on line
- COP acquires 86K ac. for USD 90 million

2018
- Leasing activity remains high
- Bonus Prices $800-$1,200/ac
- Well permitted

2019
- Test drilling and delineation
- Consolidation
2019:

**Operational Activities**

- Permitting and Unitization activities increasing across the state
- 3-D Seismic operations planned
- Start of drilling programs to delineate the play

**Market Activities**

- Multiple positions on the market now
- Drilling results will dictate activity
- Consolidation
Resurgence of the Louisiana Austin Chalk

Paul A. Taranto